

AMENDMENTS TO THE CLAIMS

Please cancel claims 1-22, and add the following new claims:

1-22. (canceled)

23. (new) An displacement-measuring apparatus for measuring the extension and/or contraction of a sample as displacement, comprising a working means for extending or contracting a sample, a movable member connected to a front end of said sample, a reduced-friction bearing for supporting said movable member horizontally and movably, and a displacement sensor for detecting the displacement of said movable member, whereby said sample extends and/or contracts by the action of said working means to cause the displacement of said movable member, which is detected by said displacement sensor.

24. (new) The displacement-measuring apparatus according to claim 23, wherein said displacement is measured by extending and/or contracting said sample while applying a load to said movable member in an opposite direction to the displacing direction of said movable member.

25. (new) The displacement-measuring apparatus according to claim 23, further comprising a cell containing said sample, a pulley provided on the rear side of a front end of said movable member, and a weight suspending from said pulley with a string, the rear end of said sample being fixed in said cell, and said string being horizontally supported by said movable member and said pulley so that a load is applied from said weight to said sample when extending, and said working means acting to extend said sample, thereby displacing said movable member forward so that the extension of said sample is measured.

26. (new) The displacement-measuring apparatus according to claim 23, further comprising a cell containing said sample, a pulley provided on the front side of a rear end of said movable member, and a weight suspending from said pulley with a string, the rear end of said sample being fixed in said cell, and said string being horizontally supported by said movable

member and said pulley so that a load is applied from said weight to said sample when contracting, and said working means acting to contract said sample, thereby displacing said movable member rearward so that the contraction of said sample is measured.

27. (new) The displacement-measuring apparatus according to claim 23, further comprising a sample-fixing rod, a stand horizontally supporting said fixing rod, a pulley provided on the rear side of a front end of said movable member, and a weight suspending from said pulley with a string, said string being horizontally supported by said movable member and said pulley so that a load is applied from said weight to said sample when extending, and said working means acting to extend said sample, thereby displacing said movable member forward so that the extension of said sample is measured.

28. (new) The displacement-measuring apparatus according to claim 23, further comprising a sample-fixing rod, a stand horizontally supporting said fixing rod, a pulley provided on the front side of a rear end of said movable member, and a weight suspending from said pulley with a string, said string being horizontally supported by said movable member and said pulley so that a load is applied from said weight to said sample when contracting, and said working means acting to contract said sample, thereby displacing said movable member rearward so that the contraction of said sample is measured.

29. (new) The displacement-measuring apparatus according to claim 23, wherein said reduced-friction bearing is an air bearing.

30. (new) An apparatus for measuring power generated as a pushing force and/or a pulling force by the extension and/or contraction of a sample, comprising a means for activating said sample, a movable member connected to a front end of said sample, a load cell attached to a front end of said movable member, and a reduced-friction bearing horizontally and movably supporting said movable member, said power generated by said sample by the action of said working means being transmitted to said load cell via said movable member and measured thereby.

31. (new) The power-measuring apparatus according to claim 30, wherein the pushing force and/or pulling force of said sample is measured with a load applied to said sample in an opposite direction to the moving direction of said movable member.
32. (new) The power-measuring apparatus according to claim 30, further comprising a pulley provided on the rear side of a front end of said movable member, and a weight suspending from said pulley with a string, said string being horizontally supported by said movable member and said pulley so that a load is applied from said weight to said movable member when said pushing force is generated.
33. (new) The power-measuring apparatus according to claim 30, further comprising a pulley provided on the front side of a rear end of said movable member, and a weight suspending from said pulley with a string, said string being horizontally supported by said movable member and said pulley so that a load is applied from said weight to said movable member when said pulling force is generated.
34. (new) The power-measuring apparatus according to claim 30, further comprising a sample-fixing rod attached to a rear end of said sample, a stand horizontally supporting said fixing rod, a pulley provided on the rear side of a front end of said movable member, and a weight suspending from said pulley with a string, said string being horizontally supported by said movable member and said pulley so that a load is applied from said weight to said sample when said pushing force of said sample is generated.
35. (new) The power-measuring apparatus according to claim 30, further comprising a sample-fixing rod attached to a rear end of said sample, a stand horizontally supporting said fixing rod, a pulley provided on the front side of a rear end of said movable member, and a weight suspending from said pulley with a string, said string being horizontally supported by said movable member and said pulley so that a load is applied from said weight to said sample when said pulling force of said sample is generated.

36. (new) The power-measuring apparatus according to claim 30, wherein said reduced-friction bearing is an air bearing.